Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-3. (cancelled)

4. (currently amended) A digital film grain as in claim ~~1~~ 17 wherein said photodetector is direct radiation detector.

5. (currently amended) A digital film grain as in claim 4 wherein said direct radiation detector is comprised of a layer selected from a group comprised of cadmium telluride, cadmium zinc telluride, lead iodide, mercuric iodide, and amorphous selenium ~~is said direct radiation detector~~.

6. (currently amended) A digital film grain as in claim ~~1~~ 17 wherein said photodetector is an indirect radiation detector.

7. (currently amended) A digital film grain as in claim ~~1~~ 17 wherein a luminophor is in proximity to said photodetector.

8. (currently amended) A digital film grain as in claim ~~1~~ 17 wherein said transponder comprises a radio frequency generator.

9. (currently amended) A digital film grain as in claim ~~1~~ 17 wherein said transponder comprises an antenna.

10. (currently amended) A digital film grain as in claim ~~1~~ 17 wherein said transponder comprises a modulator.

11. (currently amended) A digital film grain as in claim ~~1~~ 17 wherein said transponder extracts electrical energy from a radiated field to provide electrical power for said digital film grain.

12. (currently amended) A digital film grain as in claim ~~1~~ 17 wherein electrical power for said photodetector and said transponder is stored in a capacitor.

13. (original) A digital film grain as in claim 12 wherein said capacitor is located on said digital film grain.

14. (currently amended) A digital film grain as in claim ~~1~~ 17 wherein a layer of x-ray converting material is in optical contact with a photodetective surface of said digital film grain.

15. (original) A digital film grain as in claim 14 wherein said digital film grain is disposed in a container.

16. (original) A digital film grain as in claim 15 wherein said container is a capillary.

17. (currently amended) A digital film grain ~~as in claim 1~~ for detection of x-rays which comprises:

a photodetector which produces an electrical signal having a strength which is related to an input x-ray flux;

a transponder which receives said electrical signal and transmits information quantifying said electrical signal; and

wherein said digital film grain is disposed in a container and said container contains a material producing a light emission in response to an input radiation flux.

18. (currently amended) A digital film grain as in claim ~~1~~ 17 wherein said digital film grain has an individual identifier.

19. (currently amended) A digital film grain as in claim ~~1~~ 17 wherein said photodetector is selected from a group comprised of photodiode,

charged coupled device (CCD), complementary metal oxide semiconductor (CMOS), phototransistor, and avalanche photodiode.

20. (cancelled)

21. (currently amended) An imaging system comprising:

a distribution of two or more digital film grains wherein each of said digital film grains comprise a photodetector and transponder;

a base station containing a transponder capable of sending information to and receiving information from to each of said digital film ~~grains~~ grain transponder; and

an image accumulator which assembles signals related to an light flux received at said digital film grains and arranging said signals in an order dependent upon a location of each of said digital grains.

Claims 22-24. (cancelled)

25. (original) A method of acquiring an image by:

detecting an irradiance profile with a distribution of digital film grains;

sending a signal and an identification number from each of said digital film grains to an image accumulator;

determining a location of each of said digital film grains in said distribution;

assembling said signals from said digital film grains in an order according to said location of each of said digital film grain.

26. (original) A method for determining locations of digital film grains in a distribution by:

directing a spot of irradiation to which said distribution is sensitive toward said distribution, wherein at least one dimension of said spot of irradiation is smaller than a smallest distance between said digital film grains;

recording said location of each of said spots of irradiation;

recording signals from said digital film grains in said distribution; and

correlating said location of said spot of irradiation to each of said digital film grains sending a signal exceeding a predetermined threshold.

27. (original) A method as in claim 26 comprising:

moving said spot of irradiation to another location and correlating digital film grain signals with location until a set of locations for a substantial fraction of the film grains in said distribution have sent a signal indicating detection of irradiation.

28. (cancelled)

Claims 29-33. (cancelled)

34. (currently amended) A digital film grain ~~as in claim 33~~ for detection of visible light, ultraviolet, or infrared radiation which comprises:

a photodetector which produces an electrical signal having a strength which is related to an input radiation;

a transponder which receives said electrical signal and transmits information quantifying said electrical signal;

wherein components of said digital film grain are fabricated on a single substrate; and

wherein spatial dimensions in said substrate are approximately equal with a pixel size of an image produced by an array of said digital film grains.

35. (currently amended) A digital film grain ~~of claim 33~~ for detection of visible light, ultraviolet, or infrared radiation which comprises:

a photodetector which produces an electrical signal having a strength which is related to an input radiation;

a transponder which receives said electrical signal and transmits information quantifying said electrical signal;

wherein components of said digital film grain are fabricated on a single substrate; and

wherein said substrate spatial dimension is 200 μm or smaller.